Technical Data Sheet

Biotin Hamster Anti-Mouse CD80

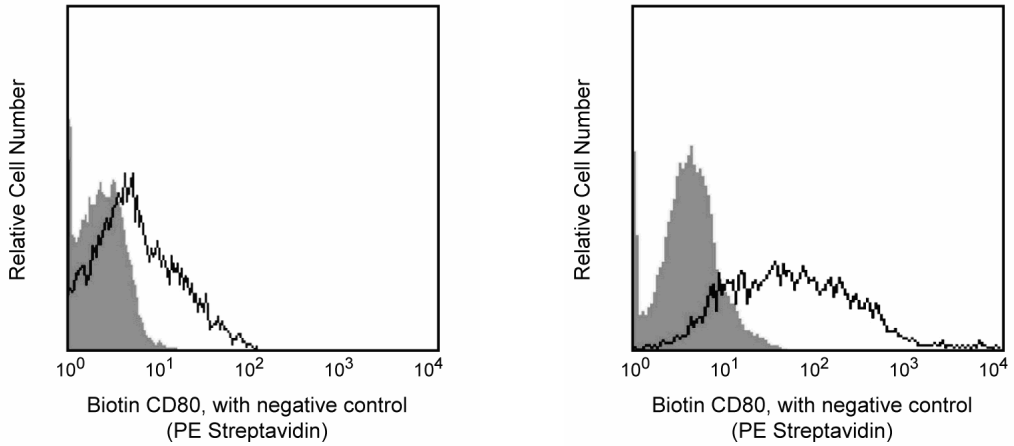
Product Information

Material Number:	**553767**
Alternate Name:	B7-1
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	16-10A1
Immunogen:	Mouse CD80 (B7) Transfected Cell Line
Isotype:	Armenian Hamster IgG2, κ
Reactivity:	QC Testing: Mouse Reported: Dog
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 16-10A1 antibody reacts with CD80 (B7-1). This member of the Ig superfamily, along with CD86 (B7-2), participates in T-cell co-stimulation via interactions with CD28 and CD152 (CTLA-4). CD80 has been reported to be constitutively expressed on dendritic cells, monocytes, and peritoneal macrophages; and it is inducible on B cells by various means, including activation by LPS, IL-4, and the cross-linking of surface Ig. Expression of CD80 has been reported to be greatly enhanced on splenic B cells following activation by LPS, with peak expression occurring between 48 and 72 hours. It has been reported that the activation of purified B cells with LPS can induce CD80 expression in as few as 18 hours. The 16-10A1 antibody has been reported to block binding of CTLA-4 Ig to CD80 and to block T-cell activation by Con A-elicited peritoneal exudate cells and CD80-transfected cell lines. However, 16-10A1 antibody alone is not able to block T-cell activation by antigen-presenting cells. CD86 (B7-2) is an alternate ligand for CD28 and CD152 (CTLA-4). Preliminary reports indicate that the 16-10A1 mAb may block the binding of rat anti-CD80 mAb clone 1G10 (Cat. No. 553368). In addition, it has been reported that the 16-10A1 antibody may cross-react with an activation antigen expressed on IFN-γ-activated alveolar macrophages of the dog.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Expression of membrane CD80 by mouse splenocytes. *Freshly isolated (left panel) or 72-hour LPS-stimulated BALB/c splenocytes (right panel) were pretreated with Mouse BD Fc Block™ (anti-mouse CD16/CD32 mAb 2.4G2, Cat. No. 553141) and stained with biotinylated hamster anti-mouse CD80 clone 16-10A1 mAb (open histograms) followed by PE streptavidin (Cat. No. 554061, open and shaded histograms). Flow cytometry was performed on a FACScan™ (BD Biosciences, San Jose, CA).*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.
Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

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Application Notes

Application

Flow cytometry	Routinely Tested

Recommended Assay Procedure:

Flow cytometry: For flow cytometry of leukocytes, it is recommended that Mouse BD Fc Block™ (purified anti-mouse CD16/CD32 mAb 2.4G2, Cat. No. 553141) be used. Since this antigen is expressed at low density, it may be desirable to use a "bright" second-step reagent, such as PE streptavidin (Cat. No. 554061).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554061	Streptavidin PE	0.5 mg	(none)
550084	Biotin Hamster IgG2 Kappa Isotype Control	0.25 mg	B81-3
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/pharmingen/hamster_chart_11x17.pdf.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Bluestone JA. New perspectives of CD28-B7-mediated T cell costimulation. *Immunity.* 1995; 2(6):555-559.(Biology)

Boussiotis VA, Gribben JG, Freeman GJ, Nadler LM. Blockade of the CD28 co-stimulatory pathway: a means to induce tolerance. *Curr Opin Immunol.* 1994; 6(5):797-807.(Biology)

Hathcock KS, Laszlo G, Pucillo C, Linsley P, Hodes RJ. Comparative analysis of B7-1 and B7-2 costimulatory ligands: expression and function. *J Exp Med.* 1994; 180(2):631-640.(Biology)

Razi-Wolf Z, Freeman GJ, Galvin F, Benacerraf B, Nadler L, Reiser H. Expression and function of the murine B7 antigen, the major costimulatory molecule expressed by peritoneal exudate cells. *Proc Natl Acad Sci U S A.* 1992; 89(9):4210-4214.(Immunogen: Blocking, Immunoprecipitation)

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